

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re  
Patent Application of : Brigitta Otto et al.      Electronically filed by Tracy Bruesewitz  
Appl. No. : 10/591,567      on 3/1/10.  
  
Confirmation No. : 6229  
Filed : March 21, 2007  
Title : METHOD FOR  
PRODUCING HIGHLY  
CONDENSED SOLID-  
PHASE POLYESTERS  
  
TC/A.U. : 1796  
Examiner : Frances Tischler  
  
Docket No. : 041165-9103-US00  
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**DECLARATION UNDER 37 CFR § 1.132**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

I, Brigitta Otto, hereby declare and state the following:

1. I have personal knowledge of the following facts and I make this declaration in support of the prosecution of U.S. Patent Application Serial No. 10/591,567 ("the Application") before the United States Patent and Trademark Office. I am an inventor named on the Application.
2. I understand that in an Office action dated September 1, 2009, Examiner Frances Tischler rejected claims 1-5 and 7, 10-12, 14, 15 and 18-20 of the Application under 35 U.S.C. §102 over U.S. Patent No. 4,223,128 issued to Halek et al. Claims 1-5 and 7-24 of the Application under 35 U.S.C. 103(a) over International Application No. WO03/046045 issued to Otto et al. in view

of U.S. Patent No. 4,223,128. I am an inventor named on the WO03/046045 application. I have reviewed the presently pending amended claims, attached as Appendix A.

3. The WO03/046045 application does not teach, and would not have suggested to one of skill in the art, to set the dew point of the gas in two crystallization stages to a particular value according to newly amended claim 1. In the Examples of the '045 application, the dew point of the gas in the two stages was not set to a particular value to obtain a desired rise in I.V. of:

- (i) about 0 dl/g to about 0.02 dl/g and the dew point of the gas is set to about -10°C to about -20°C;
- (ii) about 0.02 dl/g to about 0.04 dl/g and the dew point of the gas is set to about -15°C to about -25°C;
- (iii) about 0.04 dl/g to about 0.06 dl/g and the dew point of the gas is set to about -20°C to about -40°C;
- (iv) about 0.06 dl/g to about 0.08 dl/g and the dew point of the gas is set to about -30°C to about -55°C; or
- (v) about 0.08 dl/g to about 0.1 dl/g and the dew point of the gas is set to about -45°C to about -75°C.

In Example 2, the dew point of the gas used was - 75 to -95 °C. In Example 4, the dew point of the gas used was - 75 to -95 °C.

4. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: 01.03.2010

  
\_\_\_\_\_  
Brigitta Otto

Docket No.: 041165-9103-US00  
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## Appendix A

1. (Previously Presented) Method of producing polyesters having a desired I.V. value, the method comprising:

a) a crystallisation of crystallizing a polyester material in two stages, wherein the crystallisation is carried out in the presence of a gas with a dew point of (less than or equal to)  $\leq$  approximately  $-10^{\circ}\text{C}$ ; in the two stages, the first stage being carried out at a lower temperature than the subsequent stage; and

b) wherein setting the dew point of the gas to a particular value to obtain is set in dependence of the a desired rise of I.V. value of the polyester of

(i) about 0 dl/g to about 0.02 dl/g and the dew point of the gas is set to about  $-10^{\circ}\text{C}$  to about  $-20^{\circ}\text{C}$ ;

(ii) about 0.02 dl/g to about 0.04 dl/g and the dew point of the gas is set to about  $-15^{\circ}\text{C}$  to about  $-25^{\circ}\text{C}$ ;

(iii) about 0.04 dl/g to about 0.06 dl/g and the dew point of the gas is set to about  $-20^{\circ}\text{C}$  to about  $-40^{\circ}\text{C}$ ;

(iv) about 0.06 dl/g to about 0.08 dl/g and the dew point of the gas is set to about  $-30^{\circ}\text{C}$  to about  $-55^{\circ}\text{C}$ ; or

(v) about 0.08 dl/g to about 0.1 dl/g and the dew point of the gas is set to about  $-45^{\circ}\text{C}$  to about  $-75^{\circ}\text{C}$ .

2. (Original) Method according to Claim 1, wherein the dew point lies in the range from approximately  $-10^{\circ}\text{C}$  to approximately  $-85^{\circ}\text{C}$ .

3. (Previously Presented) Method according to Claim 1, wherein the gas comprises air, nitrogen or a mixture of them.

4. (Previously Presented) Method according to Claim 3, wherein the gas comprises nitrogen.

5. (Previously Presented) Method according to Claim 1, wherein the intrinsic viscosity I.V. of the polyester material during the crystallisation rises by approximately 0 to approximately 0.11 dl/g.

6. (Canceled)
7. (Previously Presented) Method according to Claim 1, wherein the crystallisation is carried out at temperatures of approximately 150 °C to approximately 230 °C
8. (Previously Presented) Method according to Claim 1, wherein the temperature during the crystallisation is continuously increased by up to approximately 20 °C.
9. (Previously Presented) Method according to Claim 1, wherein the crystallisation is carried out for up to approximately 10 h.
10. (Currently Amended) Method according to Claim 1, wherein the crystallisation is carried out in ~~at least~~ more than two stages.
11. (Cancel)
12. (Currently Amended) Method according to Claim ~~40~~ 1, wherein the 1<sup>st</sup> stage of the crystallisation is carried out at a temperature of approximately 150 °C to approximately 210 °C and the 2<sup>nd</sup> stage of the crystallisation is carried out at a temperature of approximately 180 °C to approximately 230 °C.
13. (Currently Amended) Method according to Claim ~~40~~ 1, wherein the 1<sup>st</sup> stage of the crystallisation is carried out for up to approximately 2 h and the 2<sup>nd</sup> stage for up to approximately 8 h.
14. (Currently Amended) Method according to Claim ~~40~~ 1, wherein the 1<sup>st</sup> stage of the crystallisation is carried out using a gas flow under turbulence.
15. (Original) Method according to Claim 14, wherein the 1<sup>st</sup> stage of the crystallisation is carried out in a fluidised bed reactor.

16. (Previously Presented) Method according to Claim 1, wherein in the 2<sup>nd</sup> stage of the crystallisation the polyester material flows (i) under mechanical disturbance and the gas in counterflow, (ii) under mechanical disturbance and the gas in unflow and (iii) without mechanical disturbance and the gas in unflow.

17. (Original) Method according to Claim 16, wherein the 2<sup>nd</sup> stage of the crystallisation is carried out in a shaft crystalliser.

18. (Currently Amended) Method according to claim 1, for the production of a polyester formed body, comprising a crystallisation of a polyester material, wherein the crystallisation is carried out in the presence of a gas with a dew point of (less than or equal to)  $\leq$  approximately -10 °C and wherein the dew point of the gas is set in dependence of the desired rise of I.V., and further comprising producing a polyester formed body from the polyester.

19. (Original) Method according to Claim 18, wherein the polyester formed body is selected from the group consisting of bottles, films, filaments, fibres and technical high strength threads.

20. (Currently Amended) Method according to Claim 18, wherein the polyester material is formed body is produced ~~used~~ without carrying out a solid state polycondensation ~~in a following reaction stage for the production of the polyester formed bodies.~~

21-22. (Cancel)

23. (Currently Amended) Method according to claim 1, wherein setting the dew point of (less than or equal to)  ~~$\leq$  approximately -10 °C~~ comprises mixing the gas with a moistened gas.

24. (Currently Amended) Method according to claim 1, wherein setting the dew point of (less than or equal to)  ~~$\leq$  approximately -10 °C~~ comprises dividing a moist gas from a stage in the production of polyesters into a first flow and a second flow, drying the first flow, and combining the first flow and the second flow.